HASO EUV

Wavefront sensor
The Hartmann

From EUV to soft X-Ray
Achromatic technology
Vacuum compatible

imagine optic

HASO EUV

Imagine Optic's HASO EUV wavefront sensor was developed in collaboration with LOA laboratory and the SOLEIL synchrotron.

It is the only device of its kind that offers you the extreme precision and direct measurement functionality needed for today's most demanding laboratory and industrial applications.

APPLICATIONS

Designed and built in collaboration with our customers to meet their needs, the HASO EUV performs multiple functions.
With it you can :

+ Align and characterize Synchrotron, EUV-FEL and laser-driven secondary source
+ Do micro- and nano-focusing
+ Diagnose dense plasma
+ Align automatically EUV optical systems
+ Make EUV lithography
+ Analyze gas or solid high-harmonic generation

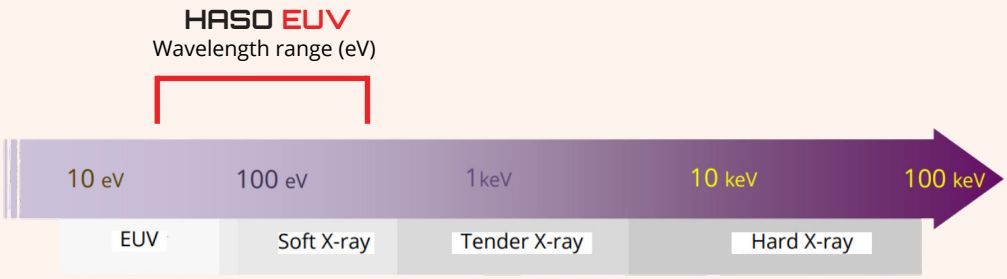
FEATURES

+ Compatible with coherent and non-coherent sources
+ Usable for closed- and open-loop adaptive optics
+ Patented rotated square technology offering high resolution and wide dynamic range
+ Suitable for mono- and polychromatic beams
+ Hydrocarbon free and compatible with 10^{-7} mbar

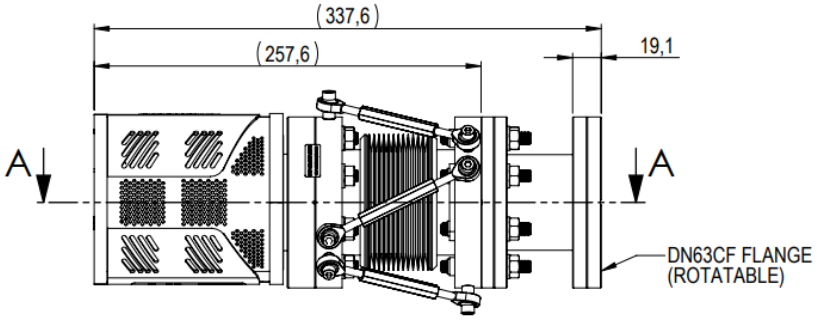
SPECIFICATIONS*

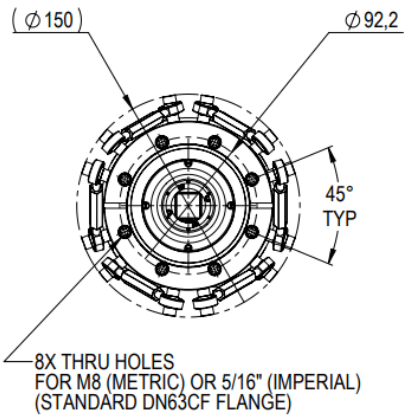
OPERATING SPECS	Standard EUV	High NA EUV
Aperture dimension	13 x 13 mm²	13.6 x 13.6 mm²
Number of sub-apertures dedicated for analysis	72 x 72	80 x 80
Minimum readout time	~ 600 ms (2MHz digitalization)	64 µs to 2 s
Working photon energy (Wavelenght range)	30-300 eV (4-40 nm)	25-250 eV (5-50 nm)
Operating system	Windows 10	Windows 10
OPTICAL SPECS		
Repeatability	~ λ/200 RMS	~ λ/200 RMS
Wavefront measurement accuracy		
• In absolute mode	~ λ/50 RMS @ 13.5 nm	< λ/20 RMS @ 10 nm
• In relative mode	~ λ/100 RMS @ 13.5 nm	< λ/40
Spatial sampling	~ 180 µm	~ 170 µm
Tilt measurment sensitivity	0.05 µrad RMS	0.1 µrad RMS
Focus dynamic range	± 0.5 m to ± ∞	± 0.45 m to ± ∞
Numerical aperture	0.013	0.15
MISC		
Dimensions (Height x Width x Length)	Ø 115 mm, L 270 mm	276 x 102 x 114 mm³
Weight	8 Kg	3.3 Kg
Sensor type	Vacuum interface	In vacuum
Working temperature	15-30 °C	15-30 °C
Compliant vacuum (hydrocarbon free)	10^{-7} mbar	$5x10^{-7}$ mbar
Interface	USB 2.0	USB 3.0
Power consumption	12 VDC	60 W @ 12 VDC

*Subject to changes without further notice



DIMENSIONS (mm)





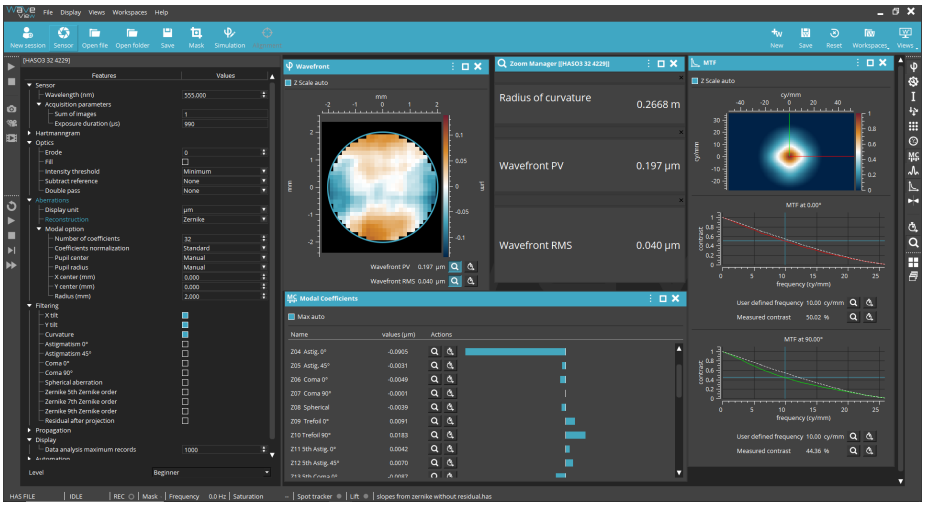
SOFTWARE

WAVEVIEW™
Metrology Software

WAVEVIEW™ is the most advanced wavefront measurement and analysis software.
It offers more than 150 features and tools optimized for a wide range of highly demanding applications.

Options :

+ Extensions for PSF, MTF, M^2 and Strehl ratio
+ Optional SDK in C, LabVIEW and Python



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